

# References

Kathleen Hartnett White, *Chairman*  
R. B. "Ralph" Marquez, *Commissioner*  
Larry R. Soward, *Commissioner*  
Glenn Shankle, *Executive Director*



19W/30614 100

## TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

*Protecting Texas by Reducing and Preventing Pollution*

October 11, 2004

Kenneth Wohlgeschaffen  
FMC Corporation Bayport  
12000 Bay Area Blvd  
Pasadena, TX 77507-1310

Re: FMC Corporation Bayport  
Solid Waste Registration Number: 30614  
Texas Waste Code: 00049022

Dear Kenneth Wohlgeschaffen:

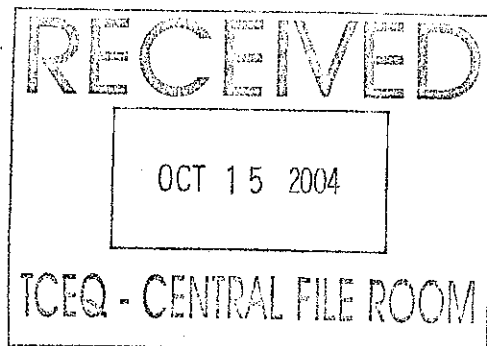
The Texas Commission on Environmental Quality (TCEQ) would like to thank you for your cooperation in our audit process of your facility's classification of the waste stream represented by the Texas waste code 00049022.

The TCEQ has completed its audit and finds no reason to request additional information at this time. If you have any questions regarding this review, please do not hesitate to contact me at (512) 239-6412.

Sincerely,

Jason D. Sutherland, Chemist  
I&HW Permits Section, MC 130  
Waste Permits Division

cc: TCEQ Region 12 Office, Houston, Texas





## FMC CORPORATION

PASADENA, HARRIS COUNTY

TEXAS

TXD083570051

Region 06

<b>Universes</b>	Full Enforcement: ----	Subj CA: X	Perm Prgrs: LI-S-	Op Pmt GPRA:
Generator: SQG	Operating TSDF: ----	Subj CA TSD 3004:	Perm Wrkld: ----	PClos GPRA: X+
Transporter:	BOYSNC:	Subj CA TSD Discr: X	Clos Wrkld: ----	CA GPRA:
	SNC:	Subj CA Non-TSD:	Pclos Wrkld: ----	CA HE EI:
	Annual BOY Enf: X	CA Wrkld: X		CA GW EI:

CA Authority	Suborg.	Staff	Attny	Resp. Agcy	Loc.	Issue Date	Effective Date
Operating Permit *RCRA 3004(u) or equivalent	TXBOA	TX		EPA	TX	11/08/1989	11/08/1989

Area Name	Seq.	Releases: GW: SW: Y	Soil:	Air:	Facilitywide: Y
ENTIRE FACILITY	1	Notes: RFI-9SWMUS			

Event Code	Seq.	Resp. Agcy	Act. Loc.	Actual Date	Sched. Orig.	Sched. New
CA200	1	State	TX	03/06/1992		
RFI APPROVED						
→ CA375PA	1	State	TX	03/06/1992		
DECISION ON PETITION FOR NO FUR. ACTION						
Notes: PERMIT TERMINATED DID NOT PN						
CA999RM	1	State	TX	03/06/1992		
CA PROCESS IS TERMINATED-REMEDIAL ACTIVITIES COMPLETE						
CA075ME	1	EPA	TX	02/24/1992		
CA PRIORITIZATION-MEDIUM CA PRIORITY						
CA190RV	3	State	TX	02/10/1992		
RFI REPORT RECEIVED						
→ CA190RV	2	State	TX	02/05/1992		
RFI REPORT RECEIVED						





## TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

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# Central Registry Query - Regulated Entity Information

## Regulated Entity Information

**RN Number:** RN100215417  
**Name:** FMC BAYPORT TEXAS FACILITY [View Prior Names](#)

**Primary Business Description:** SPECIALTY CHEMICAL PRODUCTION

### Location Information

**Street Address:** 12000 BAY AREA BLVD, PASADENA TX 77507 1310  
**County:** HARRIS  
**Nearest City:** LA PORTE  
**State:** TX  
**Near ZIP Code:** 77507  
**Physical Location:** 12000 Bay Area Blvd, Pasadena, TX

### Affiliated Customers - Current

Your Search Returned **1** Current Affiliation Records ([View History](#))

1-1 of 1 Records

CN Number ▲	Customer Name	Customer Role	More Information
<a href="#">CN600128102</a>	FMC CORPORATION	OWNER OPERATOR	

### Industry Type Codes:

Code	Classification	Name	Primary
325188	NAICS	All Other Basic Inorganic Chemical Manufacturing	Y
325199	NAICS	All Other Basic Organic Chemical Manufacturing	
2819	SIC	Industrial Inorganic Chemicals	Y
2869	SIC	Industrial Organic Chemicals	

### Program Interests

Programs
23 additional ids are associated to this regulated entity. To view all additional ids for the regulated entity, <a href="#">click here</a> . Otherwise, click on the program name below to view a list of ids for that program. (This will open a new browser window.)
<a href="#">AIR NEW SOURCE PERMITS</a>
<a href="#">AIR OPERATING PERMITS</a>
<a href="#">IHW CORRECTIVE ACTION</a>

[INDUSTRIAL AND HAZARDOUS WASTE GENERATION](#)

[INDUSTRIAL AND HAZARDOUS WASTE PROCESSING](#)

[INDUSTRIAL AND HAZARDOUS WASTE STORAGE](#)

[PUBLIC WATER SYSTEM/SUPPLY](#)

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## Central Registry Query - Regulated Entity Information

### Additional Ids for RN100215417

[Close This Window](#)

**RN Number:** RN100215417

**Name:** FMC BAYPORT TEXAS FACILITY [View Prior Names](#)

**Primary Business Description:** SPECIALTY CHEMICAL PRODUCTION

Your Search Returned 1 Additional Ids

1-1 of 1 Records

Program ▲	ID Type	ID Number	ID Status
IHW CORRECTIVE ACTION	SOLID WASTE REGISTRATION # (SWR)	30614	INACTIVE

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[Rules, Policy & Legislation](#) | [Permits, Licenses & Registrations](#) | [Compliance, Enforcement & Cleanups](#)  
[Drinking Water & Water Availability](#) | [Reporting](#) | [Environmental Quality](#) | [Assistance, Education & Participation](#)  
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FMC CORPORATION - continued							TXD083570051	
CA Authority - continued	Suborg.	Staff	Attny.	Resp. Agcy	Loc.	Issue Date	Effective Date	
Operating Permit		TXBOA	TX	EPA	TX	11/08/1989	11/08/1989	
Area Name - continued	Seq.	Releases: GW: SW:Y		Soil:	Air:	Facilitywide: Y		
ENTIRE FACILITY	1	Notes: RFI-9SWMUS						
Event Code	Seq.	Resp. Agcy	Act. Loc.	Actual Date	Sched. Orig.	Sched. New		
CA191	1	State	TX	07/08/1991				
RFI DRAFT REPORT COMMENTS								
CA190	1	EPA	TX	04/10/1991				
RFI REPORT RECEIVED								
CA370	1	State	TX	03/01/1991				
PETITION FOR NO FUR. ACTION RECEIPT DATE								
CA150	1	EPA	TX	10/08/1990				
RFI WORKPLAN APPROVED								
CA110	2	EPA	TX	09/21/1990	09/27/1990			
RFI WORKPLAN RECEIVED								
CA140	1	EPA	TX	07/27/1990				
RFI WORKPLAN NOTICE OF DEFICIENCY ISSUED								
CA190OR	1	State	TX	03/16/1990				
RFI REPORT RECEIVED								
CA110	1	EPA	TX	01/29/1990	04/09/1990			
RFI WORKPLAN RECEIVED								
CA100	1	EPA	TX	11/08/1989				
RFI IMPOSITION								
CA100	2	State	TX	08/29/1989				
RFI IMPOSITION								
CA050	1	EPA	TX	07/05/1988				
RFA COMPLETED								
CA070YE	1	State	TX	07/05/1988				
DETERMINATION OF NEED FOR A RFI-RFI IS NECESSARY								

DOCUMENTATION OF ENVIRONMENTAL INDICATOR DETERMINATION

Interim Final 2/5/99

RCRA Corrective Action  
Environmental Indicator (EI) RCRAInfo code (CA725)

Current Human Exposures Under Control

Facility Name: FMC Corporation  
Facility Address: 12000 Bay Area Blvd, Pasadena, TX 77507  
Facility EPA ID #: TXD083570051

1. Has all available relevant/significant information on known and reasonably suspected releases to soil, groundwater, surface water/sediments, and air, subject to RCRA Corrective Action (e.g., from Solid Waste Management Units (SWMU), Regulated Units (RU), and Areas of Concern (AOC)), been **considered** in this EI determination?

\_\_\_\_\_ If yes - check here and continue with #2 below.

\_\_\_\_\_ If no - re-evaluate existing data, or

X if data are not available skip to #6 and enter "IN" (more information needed) status code.

Rationale

Limited records were available in the facility file (SWR 30614). Additional information was pulled from the TCEQ website and through telephone communications. References are listed below:

- Letter to Kenneth Wohlgeschaffen; FMC from Jason Sutherland, TCEQ re: Audit of waste stream classification; dated October 11, 2004.
- RCRAInfo Comprehensive Corrective Action Report (CCAR) Run on December 28, 2005.
- TCEQ Central Registry Query; [www.tceq.com/nav/permits](http://www.tceq.com/nav/permits);
- Communication Log; Telephone Conversation between Jason Sutherland TCEQ and Cherelle Blazer, TechLaw, Inc.; regarding FMC files; dated April 19, 2006.
- Communication Log; Telephone Conversation between Ray Risner, TCEQ and Cherelle Blazer, TechLaw, Inc.; regarding FMC files; dated April 20, 2006.

Facility Description

Based on available information, FMC is an inorganic, specialty chemical manufacturing facility located at 12000 Bay Avenue Boulevard in Pasadena, Harris County, Texas. According to the TCEQ Central Registry, the site is associated with several TCEQ programs and operates with air permits (new source and operating), industrial hazardous waste (IHW) storage permit (50216), and IHW Corrective Action (Inactive SWR 30614). In a telephone conversation, Ray Risner, TCEQ CA Project Manager, indicated his notes on the FMC file state "complete" and the file is closed. He no longer has any records pertaining to this site. The RFI documents should be in Central Files.

According to the CCAR, the facility submitted a facility-wide, revised RFI Report on February 10, 1992, which addressed nine SWMUs and indicated a surface water release. The report was approved by TCEQ and the CA Process terminated effective March 3, 1992.

A request for IHW Permit 50216 files yielded no file records.

**Current Human Exposures Under Control**  
**Environmental Indicator (EI) RCRAInfo code (CA725)**  
Page 2

**BACKGROUND**

**Definition of Environmental Indicators (for the RCRA Corrective Action)**

Environmental Indicators (EI) are measures being used by the RCRA Corrective Action program to go beyond programmatic activity measures (e.g., reports received and approved, etc.) to track changes in the quality of the environment. The two EI developed to-date indicate the quality of the environment in relation to current human exposures to contamination and the migration of contaminated groundwater. An EI for non-human (ecological) receptors is intended to be developed in the future.

**Definition of "Current Human Exposures Under Control" EI**

A positive "Current Human Exposures Under Control" EI determination ("YE" status code) indicates that there are no "unacceptable" human exposures to "contamination" (i.e., contaminants in concentrations in excess of appropriate risk-based levels) that can be reasonably expected under current land- and groundwater-use conditions (for all "contamination" subject to RCRA corrective action at or from the identified facility (i.e., site-wide)).

**Relationship of EI to Final Remedies**

While Final remedies remain the long-term objective of the RCRA Corrective Action program the EI are near-term objectives which are currently being used as Program measures for the Government Performance and Results Act of 1993, GPRA). The "Current Human Exposures Under Control" EI are for reasonably expected human exposures under current land- and groundwater-use conditions ONLY, and do not consider potential future land- or groundwater-use conditions or ecological receptors. The RCRA Corrective Action program's overall mission to protect human health and the environment requires that Final remedies address these issues (i.e., potential future human exposure scenarios, future land and groundwater uses, and ecological receptors).

**Duration / Applicability of EI Determinations**

EI Determinations status codes should remain in RCRAInfo national database ONLY as long as they remain true (i.e., RCRAInfo status codes must be changed when the regulatory authorities become aware of contrary information).

**Current Human Exposures Under Control**  
**Environmental Indicator (EI) RCRAInfo code (CA725)**  
Page 3

2. Are groundwater, soil, surface water, sediments, or air **media** known or reasonably suspected to be “**contaminated**”<sup>1</sup> above appropriately protective risk-based “levels” (applicable promulgated standards, as well as other appropriate standards, guidelines, guidance, or criteria) from releases subject to RCRA Corrective Action (from SWMUs, RUs or AOCs)?

	<u>Yes</u>	<u>No</u>	<u>?</u>	<u>Rationale / Key Contaminants</u>
Groundwater				
Air (indoors) <sup>2</sup>				
Surface Soil (e.g., <2 ft)				
Surface Water				
Sediment				
Subsurf. Soil (e.g., >2 ft)				
Air (outdoors)				

- If no (for all media) - skip to #6, and enter “YE” status code after providing or citing appropriate “levels”, and referencing sufficient supporting documentation demonstrating that these “levels” are not exceeded.
- If yes (for any media) - continue after identifying key contaminants in each “contaminated” medium, citing appropriate “levels” (or provide an explanation for the determination that the medium could pose an unacceptable risk), and referencing supporting documentation.
- If unknown (for any media) - skip to #6 and enter “IN” status code.

Rationale and Reference(s):

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<sup>1</sup> “Contamination” and “contaminated” describes media containing contaminants (in any form, NAPL and/or dissolved, vapors, or solids, that are subject to RCRA) in concentrations in excess of appropriately protective risk-based “levels” (for the media, that identify risks within the acceptable risk range).

<sup>2</sup> Recent evidence (from the Colorado Dept. of Public Health and Environment, and others) suggest that unacceptable indoor air concentrations are more common in structures above groundwater with volatile contaminants than previously believed. This is a rapidly developing field and reviewers are encouraged to look to the latest guidance for the appropriate methods and scale of demonstration necessary to be reasonably certain that indoor air (in structures located above (and adjacent to) groundwater with volatile contaminants) does not present unacceptable risks.

**Current Human Exposures Under Control**  
**Environmental Indicator (EI) RCRAInfo code (CA725)**  
Page 4

3. Are there **complete pathways** between "contamination" and human receptors such that exposures can be reasonably expected under the current (land- and groundwater-use) conditions?

Summary Exposure Pathway Evaluation Table

Potential **Human Receptors** (Under Current Conditions)

<b><u>"Contaminated" Media</u></b>	Residents	Workers	Day-Care	Construction	Trespassers	Recreation	Food <sup>3</sup>
Groundwater							
Air (indoors)							
Soil (surface, e.g., <2 ft)							
Surface Water							
Sediment							
Soil (subsurface e.g., >2 ft)							
Air (outdoors)							

Instructions for Summary Exposure Pathway Evaluation Table:

1. Strike-out specific Media including Human Receptors spaces for Media which are not "contaminated" as identified in #2 above.
2. enter "yes" or "no" for potential "completeness" under each "Contaminated" Media -- Human Receptor combination (Pathway).

Note: In order to focus the evaluation to the most probable combinations some potential "Contaminated" Media - Human Receptor combinations (Pathways) do not have check spaces ("\_\_\_"). While these combinations may not be probable in most situations they may be possible in some settings and should be added as necessary.

\_\_\_ If no (pathways are not complete for any contaminated media-receptor combination) - skip to #6, and enter "YE" status code, after explaining and/or referencing condition(s) in-place, whether natural or man-made, preventing a complete exposure pathway from each contaminated medium (e.g., use optional Pathway Evaluation Work Sheet to analyze major pathways).

\_\_\_ If yes (pathways are complete for any "Contaminated" Media - Human Receptor combination) - continue after providing supporting explanation.

\_\_\_ If unknown (for any "Contaminated" Media - Human Receptor combination) - skip to #6 and enter "IN" status code.

Rationale and Reference(s):

---

<sup>3</sup> Indirect Pathway/Receptor (e.g., vegetables, fruits, crops, meat and dairy products, fish, shellfish, etc.)

**Current Human Exposures Under Control**  
**Environmental Indicator (EI) RCRAInfo code (CA725)**

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4. Can the **exposures** from any of the complete pathways identified in #3 be reasonably expected to be **“significant”**<sup>4</sup> (i.e., potentially “unacceptable” because exposures can be reasonably expected to be: 1) greater in magnitude (intensity, frequency and/or duration) than assumed in the derivation of the acceptable “levels” (used to identify the “contamination”); or 2) the combination of exposure magnitude (perhaps even though low) and contaminant concentrations (which may be substantially above the acceptable “levels”) could result in greater than acceptable risks)?

—— If no (exposures can not be reasonably expected to be significant (i.e., potentially “unacceptable”) for any complete exposure pathway) - skip to #6 and enter “YE” status code after explaining and/or referencing documentation justifying why the exposures (from each of the complete pathways) to “contamination” (identified in #3) are not expected to be “significant.”

—— If yes (exposures could be reasonably expected to be “significant” (i.e., potentially “unacceptable”) for any complete exposure pathway) - continue after providing a description (of each potentially “unacceptable” exposure pathway) and explaining and/or referencing documentation justifying why the exposures (from each of the remaining complete pathways) to “contamination” (identified in #3) are not expected to be “significant.”

—— If unknown (for any complete pathway) - skip to #6 and enter “IN” status code

Rationale and Reference(s):

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<sup>4</sup> If there is any question on whether the identified exposures are “significant” (i.e., potentially “unacceptable”) consult a human health Risk Assessment specialist with appropriate education, training and experience.



**Current Human Exposures Under Control**  
**Environmental Indicator (EI) RCRAInfo code (CA725)**  
Page 6

5. Can the "significant" **exposures** (identified in #4) be shown to be within **acceptable** limits?

- If yes (all "significant" exposures have been shown to be within acceptable limits) - continue and enter "YE" after summarizing and referencing documentation justifying why all "significant" exposures to "contamination" are within acceptable limits (e.g., a site-specific Human Health Risk Assessment).
- If no (there are current exposures that can be reasonably expected to be "unacceptable")- continue and enter "NO" status code after providing a description of each potentially "unacceptable" exposure.
- If unknown (for any potentially "unacceptable" exposure) - continue and enter "IN" status code

Rationale and Reference(s):

**Current Human Exposures Under Control**  
**Environmental Indicator (EI) RCRAInfo code (CA725)**

Page 7

6. Check the appropriate RCRAInfo status codes for the Current Human Exposures Under Control EI event code (CA725), and obtain Supervisor (or appropriate Manager) signature and date on the EI determination below (and attach appropriate supporting documentation as well as a map of the facility):

☐ YE - Yes, "Current Human Exposures Under Control" has been verified. Based on a review of the information contained in this EI Determination, "Current Human Exposures" are expected to be "Under Control" at the

\_\_\_\_\_ facility, EPA ID # \_\_\_\_\_,  
located at \_\_\_\_\_ under current and reasonably expected  
conditions. This determination will be re-evaluated when the Agency/State  
becomes aware of significant changes at the facility.

☐ NO - "Current Human Exposures" are NOT "Under Control."

☒ IN - More information is needed to make a determination.

Completed by (signature) \_\_\_\_\_ Date \_\_\_\_\_  
(print) \_\_\_\_\_  
(title) \_\_\_\_\_

Researched by (signature) Cherelle Blazer Date April 20, 2006  
(print) Cherelle Blazer  
(title) TechLaw, Inc. (U.S. EPA Contractor)

Supervisor (signature) \_\_\_\_\_ Date \_\_\_\_\_  
(print) \_\_\_\_\_  
(title) \_\_\_\_\_  
(EPA Region or State) \_\_\_\_\_

Locations where References may be found:  
Texas Commission of Environmental Quality  
File Room, Building E  
12118 N IH 35  
Austin, TX 78753

Filed under:  
30614

Contact telephone and e-mail numbers

(name) \_\_\_\_\_  
(phone #) \_\_\_\_\_  
(e-mail) \_\_\_\_\_

**FINAL NOTE: THE HUMAN EXPOSURES EI IS A QUALITATIVE SCREENING OF EXPOSURES AND THE DETERMINATIONS WITHIN THIS DOCUMENT SHOULD NOT BE USED AS THE SOLE BASIS FOR RESTRICTING THE SCOPE OF MORE DETAILED (E.G., SITE-SPECIFIC) ASSESSMENTS OF RISK.**

**Current Human Exposures Under Control**  
**Environmental Indicator (EI) RCRAInfo code (CA725)**

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**Recommended Further Actions**

1. **This facility appears to have completed the RFI process; however, sufficient information is not available for verification. Further investigation to seek current operating status of facility and corrective action history is warranted. If RFI report cannot be located, a site visit may be warranted to confirm RFI was site-wide and no outstanding releases are yet to be addressed.**

Austin File Review, EPA Region 6  
Communication Log

Site Name: FMC Corp.  
Contact Name: Ray Risner.  
Contact Phone: (512) 239-2333  
Contact Title: Project Manager  
Contact E-Mail: \_\_\_\_\_  
Date Contacted: 4-20-06.  
Time Contacted: 10 am.  
Contacted By: Cherelle Blazer.

Summary of Communication:

I talked with a receptionist in Corrective Action Div who put me in touch with Ray Risner, the PM for FMC.

at 10am I left him a voice mail identifying myself and asking for him to return my call.

10:20am He said he was the PM for FMC but his notes on the file say "Complete" meaning that whatever they needed to do was finished and the file is closed as far as he is concerned. He no longer has the file nor anything pertaining to it. Any RFI's should be in Central Records. Does not know which division might have the file now.

Austin File Review, EPA Region 6  
Communication Log

Site Name: FMC Corporation.  
Contact Name: Jason D Sutherland.  
Contact Phone: 903-535-5135.  
Contact Title: Chemist.  
Contact E-Mail: ~~4-19-06~~<sup>CB</sup>.  
Date Contacted: 4-19-06  
Time Contacted: 2:30 p.m.  
Contacted By: Cherelle Blazer for TechLaw Inc.

Summary of Communication:

I found Mr Sutherland in the last communication between TCEQ and FMC on file, so I called him.

He only performed an audit of FMC but is not the PM for that site. He directed me to call TCEQ Remediation Div.

8/30/2012

Telephone call to Mark Diamond, FMC Bayport  
Plant, 281-474-8759, by David Vosler, USEPA

Verified that there is a fence and controlled  
gates to limit entry; plans are in place to  
limit excavation without permission.

## **1.0 INTRODUCTION**

### **1.1 Background**

On August 28, 1989 the Texas Water Commission (TWC) issued a Hazardous Waste Permit to the FMC Corporation Peroxygen Chemicals Division Bayport Plant in Pasadena, Texas. On November 8, 1989, the U.S. Environmental Protection Agency, Region 6 (EPA) issued this same permit, effective November 8, 1989, under the Resource Conservation and Recovery Act (RCRA), as amended by the Hazardous and Solid Waste Amendments of 1984 (HSWA), and provided that the permit is a joint TWC and EPA permit. As a requirement of the Permit (Provision VIII), FMC was required to perform a RCRA Facility Investigation (RFI) to determine whether hazardous constituents, listed in 40 CFR 261 Appendix VIII, had been released into the environment from certain Solid Waste Management Units (SWMUs).

In November 1989, FMC Corporation retained ENSR Consulting and Engineering to prepare the RFI Work Plan. The RFI Work Plan was submitted to TWC and EPA in January 1990. On July 27, 1990, Minor Brooks Hibbs of TWC sent a letter to Mr. Roger Threde of FMC, which contained the TWC's comments to the RFI Work Plan. On September 21, 1990 FMC issued a revision to the RFI Work Plan which addressed TWC's comments. On October 8, 1990 TWC approved the RFI Work Plan. Copies of these correspondence are provided in Appendix A.

### **1.2 RFI Program Objectives**

The objectives of the RFI are as follows:

1. To determine whether a significant release of Appendix VIII constituents has occurred from the Contaminated Sewer Lift Station and Process Sewer Lift Station;
2. To determine the extent of the release, should it be determined that a release of Appendix VIII constituents has indeed occurred from the Process Sewer Lift Station and the Contaminated Sewer Lift Station, and;
3. To perform an Appendix VIII/40 CFR 264 Appendix IX waste characterization of the following SWMUs:
  - Used Work Solution Tank
  - Used Work Solution Tanks 716A and B

- Check Tank T4889C
- H<sub>2</sub>O<sub>2</sub> Sewer Pits
- Oily Sewer Pits
- Wastewater Surge Tank T4820

The RFI Work Plan proposed a two-phased approach to meet these objectives. Phase I was designed to address Objectives 1 and 3 above; Phase II was designed to address Objective 2.

The results of the Phase I investigation indicated that a release of Appendix VIII constituents had not occurred from the Process and Contamination Sewer Lift Stations. Therefore, Phase II was not required.

This document presents a discussion of the activities and results of the Phase I investigation, and concludes the RCRA Facility Investigation for the FMC Corporation Peroxygen Chemicals Division Bayport Plant.



FMC Corporation

Peroxygen Chemicals Division  
12000 Bay Area Boulevard  
Pasadena, Texas 77507  
713 474 4171

RECEIVED  
1991 APR 10 PM 2:23

EPA REGION  
HAZARDOUS  
COMPLIANCE

**FMC**

03-Apr-1991

Texas Water Commission  
Post Office Box 13087 Capitol Station  
1700 North Congress Avenue  
Austin, Texas 78711-3087  
Attention: Executive Director

RE: Submittal of Report for RCRA Facility  
Investigation  
TWC Permit for Industrial Solid Waste Management  
Site Number HW-50216  
EPA Hazardous Waste Permit Number TXD083570051

Dear Sir:

As provided by Provision VIII D of the above referenced permit, issued by the Texas Water Commission (TWC) on August 29, 1989, and effective November 8, 1989, and further issued as a joint permit under the Resource Conservation and Recovery Act (RCRA), as amended by the Hazardous and Solid Waste Amendments of 1984 (HSWA), by the United States Environmental Protection Agency, Region VI (EPA), on November 8, 1989, with this letter FMC Corporation, Peroxygen Chemicals Division Plant, Pasadena (Bayport), Texas is submitting three copies of the RCRA Facility Investigation (RFI) report.

The results of the RFI report confirms that the release of Appendix VIII constituents had not occurred from the process and contaminated sewer lift stations. Therefore, FMC believes that further investigation is not required.

FMC Corporation

Peroxygen Chemicals Division  
12000 Bay Area Boulevard  
Pasadena, Texas 77507  
713 474 4171

RECEIVED  
1991 APR 10 PM 2:23

EPA REGION VI  
HAZARDOUS  
COMPLIANCE

**FMC**

03-Apr-1991

Texas Water Commission  
Post Office Box 13087 Capitol Station  
1700 North Congress Avenue  
Austin, Texas 78711-3087  
Attention: Executive Director

RE: Submittal of Report for RCRA Facility  
Investigation  
TWC Permit for Industrial Solid Waste Management  
Site Number HW-50216  
EPA Hazardous Waste Permit Number TXD083570051

Dear Sir:

As provided by Provision VIII D of the above referenced permit, issued by the Texas Water Commission (TWC) on August 29, 1989, and effective November 8, 1989, and further issued as a joint permit under the Resource Conservation and Recovery Act (RCRA), as amended by the Hazardous and Solid Waste Amendments of 1984 (HSWA), by the United States Environmental Protection Agency, Region VI (EPA), on November 8, 1989, with this letter FMC Corporation, Peroxygen Chemicals Division Plant, Pasadena (Bayport), Texas is submitting three copies of the RCRA Facility Investigation (RFI) report.

The results of the RFI report confirms that the release of Appendix VIII constituents had not occurred from the process and contaminated sewer lift stations. Therefore, FMC believes that further investigation is not required.

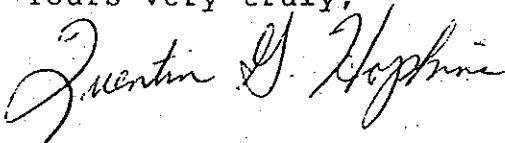
Page 2

03-Apr-1991

Executive Director, Texas Water Commission

If there are any questions, or if further information is needed, please advise me at 713/474-8705 or Mr. H. H. Thakkar, Environmental Engineer, at FMC's Bayport facility at 713/474-8774.

Yours very truly,



Quentin G. Hopkins  
Resident Manager  
FMC Corporation  
Peroxygen Chemicals Division  
Bayport, Texas Facility

cc: Director, Hazardous Waste  
Management Division  
U. S. Environmental Protection  
Agency, Region VI (one copy of the RFI report)

Texas Water Commission  
Hazardous and Solid Waste Permits Section  
Stephen F. Austin Building  
1700 North Congress Avenue  
Austin, Texas 78711-3087  
Attention: Alan P. Church, P.E.  
Permit Engineer

QGH/mr  
Attachment

John Hall, Chairman  
Pam Reed, Commissioner  
Peggy Garner, Commissioner



## TEXAS WATER COMMISSION

PROTECTING TEXANS' HEALTH AND SAFETY BY PREVENTING AND REDUCING POLLUTION

March 6, 1992

Mr. Quentin G. Hopkins, Manager  
FMC Corporation  
Peroxygen Chemicals Division  
12000 Bay Area Boulevard  
Pasadena, Texas 77507

Re: RFI associated with HW-50216  
Texas SWR No. 30614  
U.S.E.P.A. No. TXD 083570051


Dear Mr. Hopkins:

We have reviewed the information presented in the document entitled RCRA FACILITY INVESTIGATION REPORT dated March 1991, which was composed pursuant to the requirements presented in Provision VIII of Permit HW-50216.

This letter constitutes a decision by the Executive Director that there is no need for further investigation of RFI Units 1 through 8 at this time. However, you have the continuing obligation to report new discoveries of contamination attributable to these and/or any other solid waste management unit.

If you have questions regarding the RFI process please contact Alan P. Church, P.E. at 512/463-8020.

Sincerely,

  
Susan S. Ferguson, Director  
Industrial and Hazardous Waste Division

APC/tlc

cc: TWC District 7 Office - Houston  
William K. Honker - EPA Region VI - Dallas  
Bob Brydson - I&HW, Permits - Austin

RECEIVED  
INDUSTRIAL WASTE  
PERMITS BRANCH  
1992 MAR 12 PM 1:52

## TECHLAW QC DOCUMENTATION FORM

Contract Name/Number: CASU ESS GSA REPA ROC START TCEQ  
(circle appropriate one)

Other (list):

Project Title: Region 6 RCRA Program Support

Project Number: R06928

Billing Number: 03026.06.028.01.04.3.02

Project Manager: Wally O'Rear

Description of Deliverable: CA725, CA750, Facility-wide Corrective Action Status Form-  
CA725/CA750/CA400/CA550, RCRAInfo Institutional  
Controls/Engineering Controls Tracking Information, ICTS Checklist,  
Reuse Measures Checklist GPRA 2008 Baseline/RCRA 2020 Universes,  
TCEQ Memorandum Forms for ~~PMC Corporation - TXD083570051~~

Instructions for QC  
Review (or attach):

REPORT DUE TO CLIENT:

QC REVIEW DUE: TBD

Project Manager Review  
Completed (sign and date)

QC Reviewer Name: Initial QC - June Dreith, Final QC - Ann Anderson

QC Reviewer Signature: Date:

QC Comments:

Regional/Program Manager  
Review/comments:

Debra Pandak

*DBP* 5/24/06

**Attach additional pages if necessary. Editorial comments should be marked directly on the draft deliverables.**



# RCRA RECORD CENTER

## Cover Sheet

EPA I.D. #	Facility Name	Where to file	Your code	Date	Signature
TXD083570051	FMC	III- Tech	6HPT	9/27	Lydia



John Hall, Chairman  
B. J. Wynne, III, Commissioner  
John E. Birdwell, Commissioner



## TEXAS WATER COMMISSION

PROTECTING TEXANS' HEALTH AND SAFETY BY PREVENTING AND REDUCING POLLUTION

August 28, 1991

David Neleigh, Chief  
Texas Section  
Hazardous Waste Management Division  
U. S. Environmental Protection Agency  
Region VI - 6H-PT  
1445 Ross Avenue  
Dallas, Texas 75202

Re: FMC Corporation - Pasadena  
Solid Waste Registration Number 30614  
Permit Application Number 50216  
EPA I. D. Number TXD083570051

Dear Mr. Neleigh:

Enclosed are RCRA Facility Investigation Report materials received on August 12, 1991 for the subject facility.

Comments should be addressed to Alan P. Church, P. E. at (512) 463-8020.

Sincerely,

A handwritten signature in cursive script, appearing to read "Joan Allen for", written over the typed name of Cheryl A. Wilson.

Cheryl A. Wilson, Head  
Reports and Information Management Unit  
Hazardous and Solid Waste Division

BB:am

Enclosure

cc: Chip Volz, Manager, Texas Water Commission District 7  
Office - Houston

**FMC Corporation**

Peroxygen Chemicals Division  
12000 Bay Area Boulevard  
Pasadena Texas 77507  
713 474 4171



08-Aug-1991

**CERTIFIED MAIL  
RETURN RECEIPT REQUESTED  
P 913-564-968**

Texas Water Commission  
Hazardous and Solid Waste Division  
1700 North Congress Avenue  
Austin, Texas 78711-3087  
Attention: Mr. Minor Brooks Hibbs, Chief  
Permit Section

RE: RCRA Facility Investigation (RFI) Work Plan  
Review; Hazardous Waste Permit No. HW-50216;  
Industrial Solid Waste Registration No. 30614;  
EPA Registration No. TXD 083570051

Dear Mr. Hibbs:

FMC Corporation (FMC) Peroxygen Chemicals Division Bayport Plant in Pasadena, Texas received the Texas Water Commission (TWC) letter of July 8, 1991, on July 12, 1991 regarding review of RCRA Facility Investigation Report (RFI). FMC has requested ENSR, the consulting engineering firm who performed field, laboratory work and prepared the RFI report, to obtain the necessary data and help provide the responses to TWC comments listed in your letter. The attached is a list of TWC's comments and FMC's responses which I hope you will find satisfactory and sufficient to make a final recommendation and to reach a conclusion regarding the RCRA Facility Investigation.

Page 2

08-Aug-1991

Mr. Minor Brooks Hibbs, Chief Permit Section

If there are any questions, or if further information is needed, please advise me at (713) 474-8705 or, in my absence, Mr. H. H. Thakkar at FMC's Pasadena Facility at (713) 474-8774.

Very truly yours,

*Quentin G. Hopkins by Paul G. Luro*

Quentin G. Hopkins  
Resident Manager  
FMC Corporation  
Peroxygen Chemicals Division  
Pasadena (Bayport), Texas Facility

cc: Texas Water Commission  
Hazardous and Solid Waste Permits Section  
Stephen F. Austin Building  
1700 North Congress Avenue  
Austin, Texas 78711-3087  
Attention: Mr. Alan Church, P.E.  
Permit Section

Texas Water Commission District 7  
5144 East Sam Houston Parkway North  
Houston, Texas 77015

QGH/mr  
Attachment

**RESPONSES TO JULY 8, 1991 TWC COMMENTS  
RCRA FACILITY INVESTIGATION REPORT  
FMC CORPORATION  
PASADENA, TEXAS**

**TWC COMMENT NO. 1**

"Permit Provision VIII.A.2.b. is specific about characterizing encountered groundwater depth and movement. Your report suggests groundwater was encountered; however no specifics about inferred flow vector (i.e. velocity and direction) and encountered elevations were reported. Therefore, we require that you submit these data. Please be aware that the groundwater information for which we are asking is necessary for characterization purposes and should not be mistaken for the results of a groundwater study as specified in permit Provision VIII A.2.b.(2)."

**FMC RESPONSE**

Based on information recorded in the field notes during the Phase I investigation (copies of which are provided in Volume I, Appendix B of the RFI Report) the following depths of saturation were encountered during the drilling of borings B-1, B-2, B-3 and B-4.

<u>Boring</u>	<u>Observed Depth of Saturation (ft)</u>
B-1	14
B-2	16
B-3	10
B-4	5

These observations were made during drilling of the borings, thus they do not represent static water level conditions. Hence, direction of groundwater movement should not be inferred from these observations. Furthermore, these borings were drilled as close as possible to the sides of the sump and, as a result, were drilled through the sump's backfill material. Therefore, the observed depths of saturation are in part a function of the heterogeneity of the backfill material or may not reflect actual groundwater levels in the natural soils.

In an attempt to address the TWC's concern regarding direction and velocity of groundwater movement, static water level measurements were collected from four existing monitor wells at the FMC facility. On July 19, 1991, ENSR geologist Shawn Eubanks measured the static water level in monitor wells MW-B2, MW-B3, MW-B4 and MW-B5. These wells are completed in the uppermost transmissive zone at the facility, approximately 20-25 feet below ground surface.

The static water level measurements are presented below. Monitor well locations are shown on the attached map.

<u>Monitor Well</u>	<u>*Depth to Static Water Level (ft)</u>	<u>Groundwater Elevation Above Mean-Sea-Level (ft)</u>
MW-B2	6.92	9.46
MW-B3	9.03	9.77
MW-B4	8.26	10.3
MW-B5	10.22	9.98

\*Measured from top of PVC well casing using electric well sounder.

These water level measurements were used to calculate groundwater elevations and develop the attached potentiometric surface map. This map indicates that the direction of groundwater flow is northeast.

An estimate of the velocity of groundwater movement is provided below.

$$V = \frac{ki}{\phi}$$

Where V = groundwater velocity  
i = hydraulic gradient (calculated from potentiometric surface map)  
k = hydraulic conductivity (estimated, Freeze and Cherry 1979)  
 $\phi$  = effective porosity (estimated, Statistical Analysis of Groundwater Monitoring Data at RCRA Facilities, EPA 1989)

Therefore: using a range of K values based on soil descriptions and an effective porosity equal to 15 percent:

$$\begin{aligned} K_{\max} &= 15 \text{ ft/day} \\ K_{\min} &= 1.5 \text{ ft/day} \\ \phi &= 15 \text{ percent} \end{aligned}$$

$$V_{\max} = \frac{(15 \text{ ft/day})(0.001 \text{ ft/ft})}{0.15}$$

$$0.1 \text{ ft/day or } 37 \text{ ft/year}$$

$$V_{\min} = \frac{(1.5 \text{ ft/day})(0.001 \text{ ft/ft})}{0.15}$$

$$0.01 \text{ ft/day or } 4 \text{ ft/year}$$

## **TWC Comment No. 2**

"Permit Provision VIII.A.2.b(4) specifies that you describe exact procedures for soil testing; which your report failed to do. Therefore, we require that you furnish the following information:

By what test methods did you determine that the lindane and endrine levels in the soil excavated from borehole no. 1 were above TCLP limits for those constituents?

Moreover, in the existing soil regime surrounding borehole No. 1, are the lindane and endrine fractions fixed or leachable?"

## **FMC RESPONSE**

The laboratory test methods that were used for the endrine and lindane analysis of soil samples collected from Boring No. 1 are provided in Volume II, Appendix F of the RCRA Facility Investigation Report.

The test methods used for these pesticide analysis were: EPA SW-846: 3550, 8080, Sonication analyzed by GC.

The endrine and lindane levels reported in the RCRA Facility Investigation Report are total concentrations, not TCLP concentrations. As shown in the laboratory reports provided in Volume II, Appendix F and summarized on Table 4-1 in Volume I, there were no detectable levels of endrine or lindane in any of the Phase I samples.

SURVEY INFORMATION  
(by Shanks Land Surveyors of Texas)


BORING	NORTH	EAST	ELEVATION FT., MSL
BKG-1	1775.2	458.9	13.3
BKG-1R	1777.6	458.7	
BKG-2	3393.9	1731.2	15.2

## EXPLANATION

BKG-1 ● BACKGROUND SOIL BORING LOCATIONS

 RFI SOLID WASTE MANAGEMENT UNITS

1. RFI UNIT 1 - CONTAMINATED SEWER LIFT STATION
2. RFI UNIT 2 - PROCESS SEWER LIFT STATION
3. RFI UNIT 3 - USED WORK SOLUTION TANK
4. RFI UNIT 4 - USED WORK SOLUTION TANKS 716 A & B
5. RFI UNIT 5 - CHECK TANK T4889C
6. RFI UNIT 6 - H<sub>2</sub>O<sub>2</sub> SEWER PITS
7. RFI UNIT 7 - OILY SEWER PITS
8. RFI UNIT 8 - WASTEWATER SURGE TANK

MW-B5  
9.98  MONITOR WELL AND GROUNDWATER ELEVATION  
(FEET ABOVE MEAN SEA LEVEL)

10.0  POTENTIOMETRIC LINE OF EQUAL ELEVATION

 DIRECTION OF GROUNDWATER MOVEMENT



# ENSR<sup>TM</sup>

ENSR CONSULTING AND ENGINEERING

GROUNDWATER POTENTIOMETRIC  
SURFACE MAP OF POND AREA  
DATE MEASURE : 7-19-91  
EMC CORPORATION, BAYPORT PLANT  
PASADENA, TEXAS

DRAWN BY: CS

DATE:

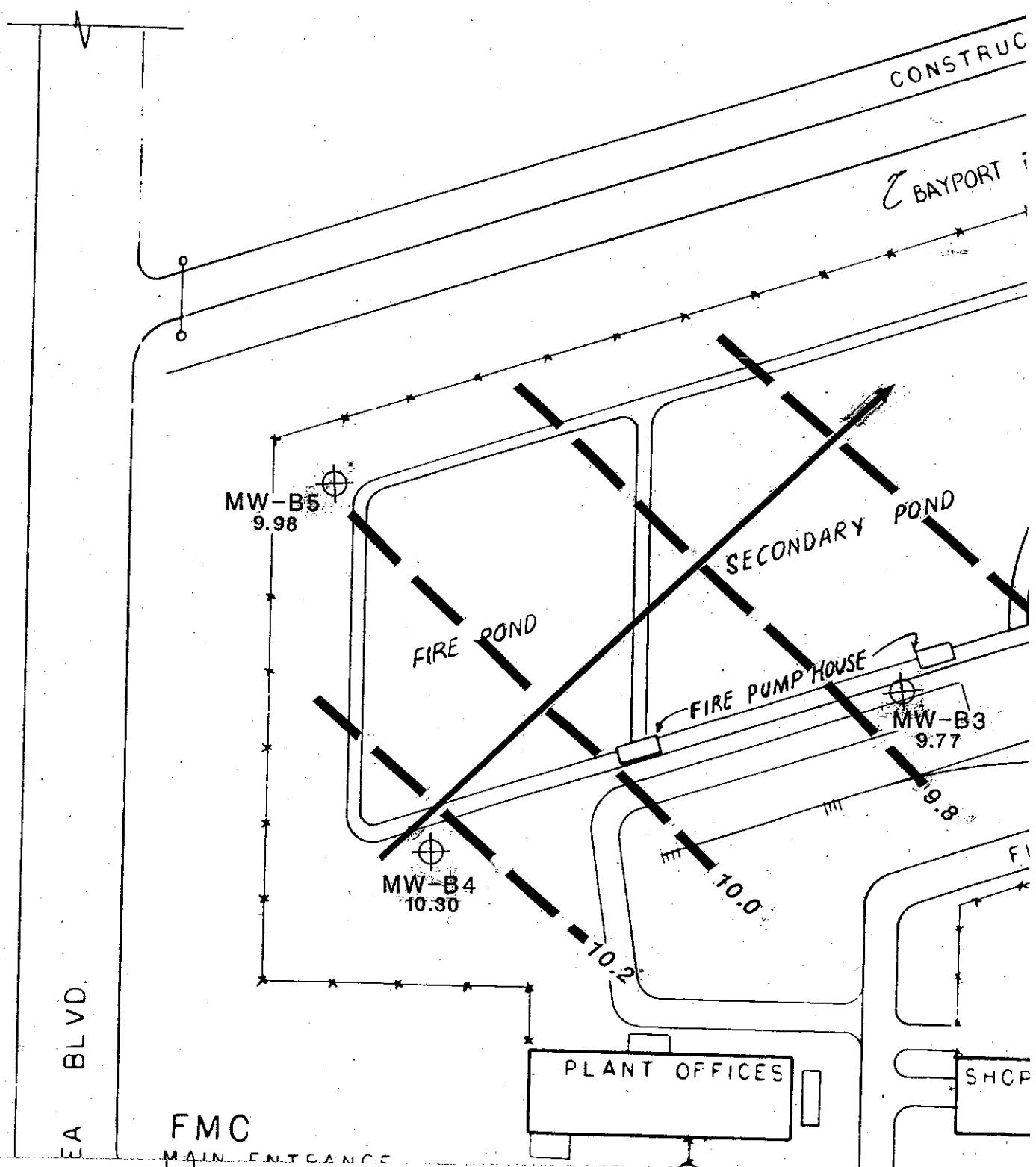
PROJECT NO.: 2810-014

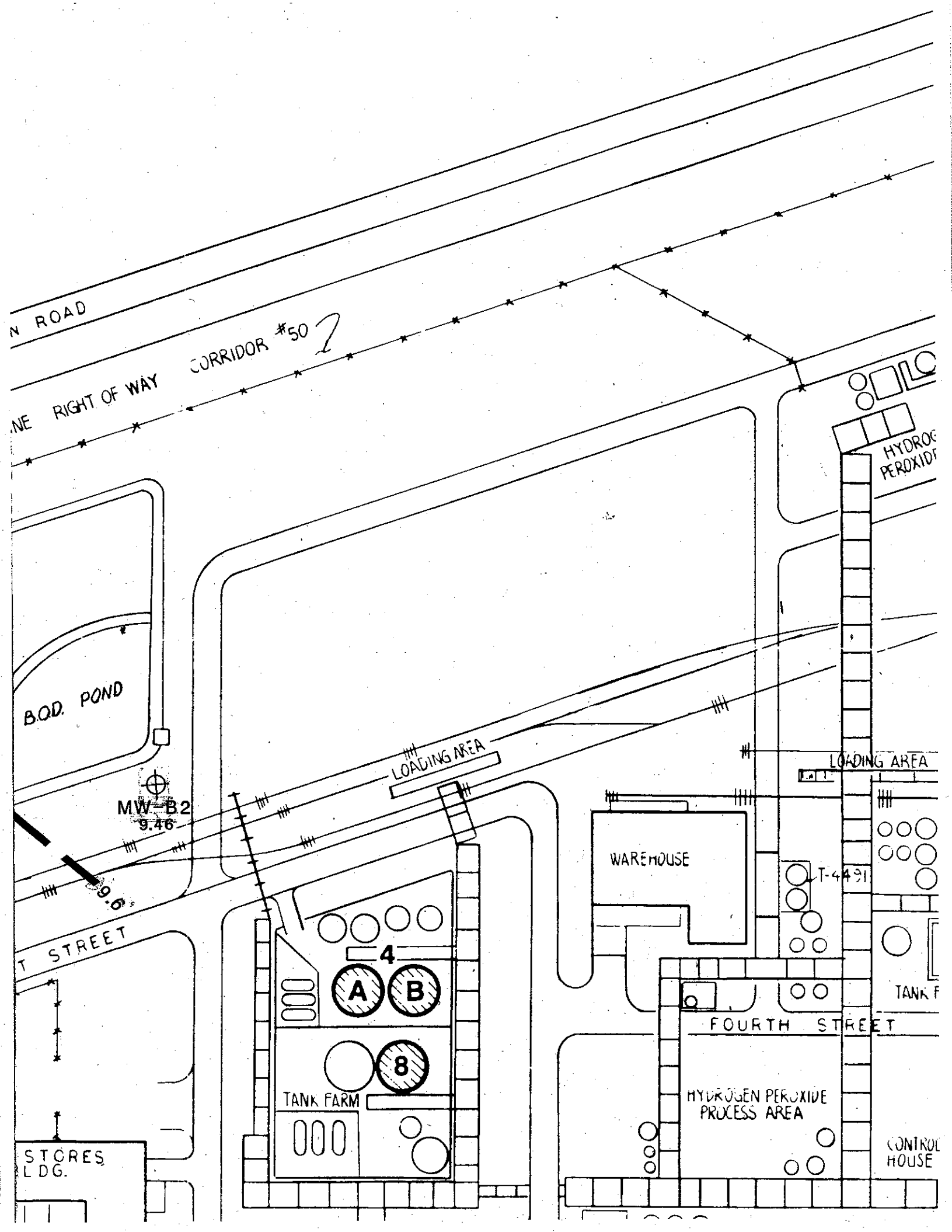
CHK'D BY:

REVISED:

DWG.NO.:







BKG-2  
BKG-2R

RAILROAD SPURS

OUTFALL #1

OUTFALL #2

OUTFALL #3

OUTFALL #4

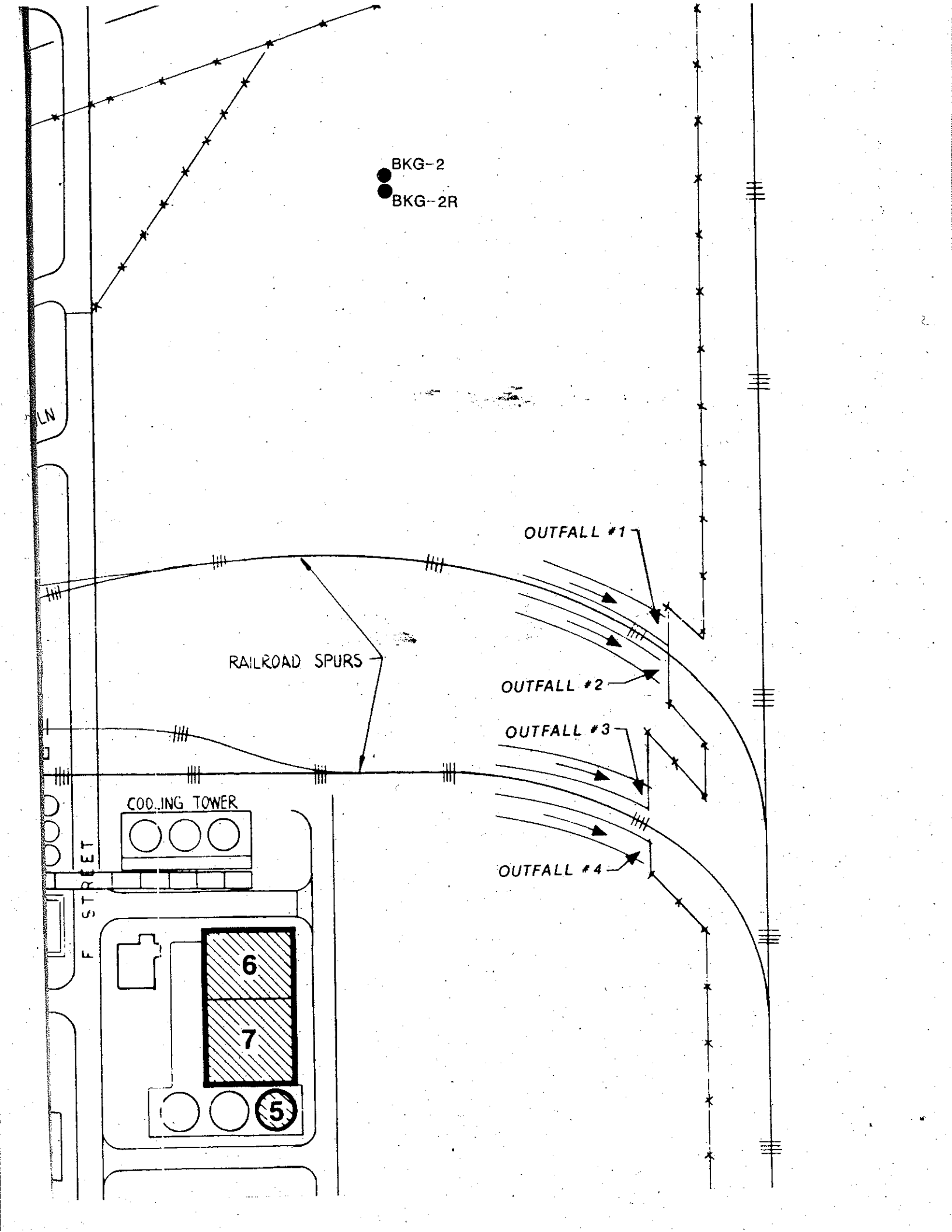
COOLING TOWER

F STREET

6

7

5



BAY AR

NORTH ENTRANCE

PLANT PARKING LOT

SHIFT  
PARKING  
LOT

MAINTENANCE CONTRACT  
PARKING LOT

SUBCONTRACT  
PARKING LOT

EXIST TRUCK  
PARKING

TRUCK  
SCALES

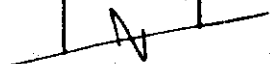
MCC

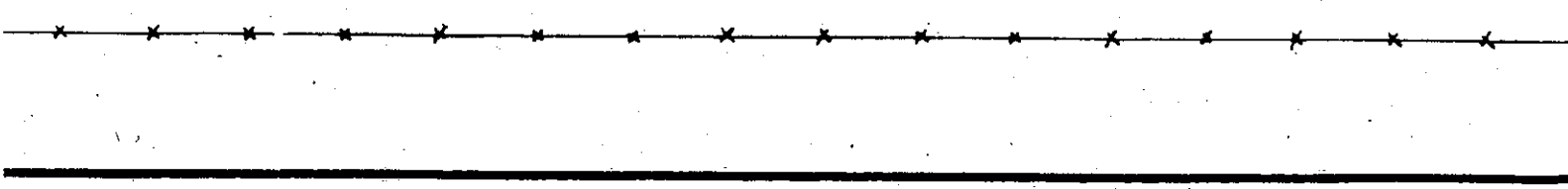
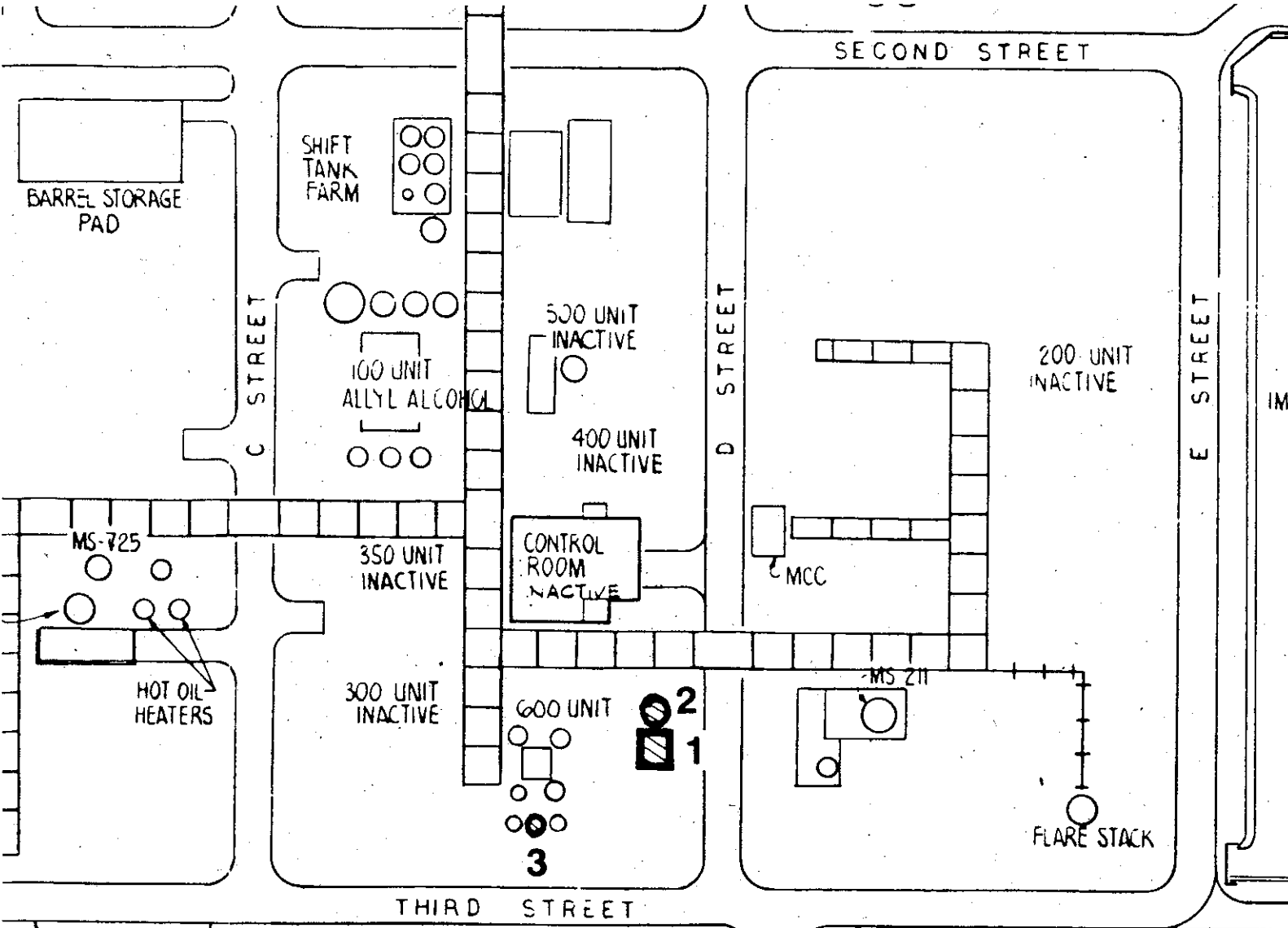
INCINERATOR

B STREET

BKG-1R

BKG-1



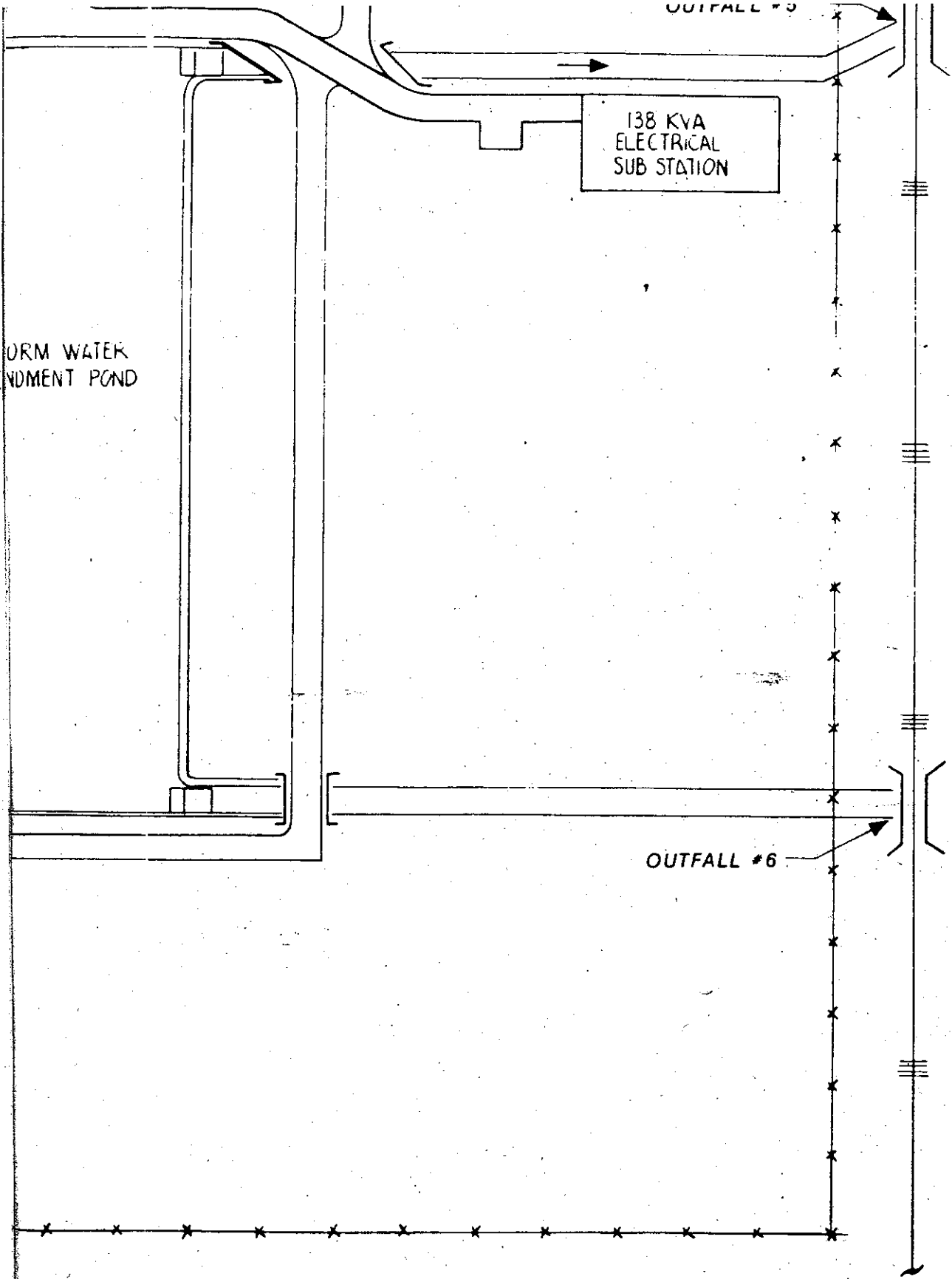


OUTFALL #5

138 KVA  
ELECTRICAL  
SUB STATION

ORM WATER  
NDMENT POND

OUTFALL #6



**FMC Corporation**

Peroxygen Chemicals Division  
12000 Bay Area Boulevard  
Pasadena Texas 77507  
713 474 4171

RECEIVED  
(1991) APR 10 PM 2:23

EPA REGION VI  
HAZARDOUS WASTE  
COMPLIANCE

**FMC**

03-Apr-1991

Texas Water Commission  
Post Office Box 13087 Capitol Station  
1700 North Congress Avenue  
Austin, Texas 78711-3087  
Attention: Executive Director

RE: Submittal of Report for RCRA Facility  
Investigation  
TWC Permit for Industrial Solid Waste Management  
Site Number HW-50216  
EPA Hazardous Waste Permit Number TXD083570051

Dear Sir:

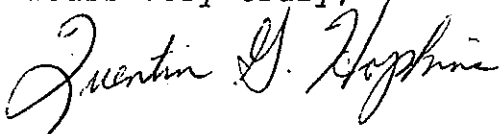
As provided by Provision VIII D of the above referenced permit, issued by the Texas Water Commission (TWC) on August 29, 1989, and effective November 8, 1989, and further issued as a joint permit under the Resource Conservation and Recovery Act (RCRA), as amended by the Hazardous and Solid Waste Amendments of 1984 (HSWA), by the United States Environmental Protection Agency, Region VI (EPA), on November 8, 1989, with this letter FMC Corporation, Peroxygen Chemicals Division Plant, Pasadena (Bayport), Texas is submitting three copies of the RCRA Facility Investigation (RFI) report.

The results of the RFI report confirms that the release of Appendix VIII constituents had not occurred from the process and contaminated sewer lift stations. Therefore, FMC believes that further investigation is not required.

Page 2  
03-Apr-1991  
Executive Director, Texas Water Commission

If there are any questions, or if further information is needed, please advise me at 713/474-8705 or Mr. H. H. Thakkar, Environmental Engineer, at FMC's Bayport facility at 713/474-8774.

Yours very truly,



Quentin G. Hopkins  
Resident Manager  
FMC Corporation  
Peroxygen Chemicals Division  
Bayport, Texas Facility

cc: Director, Hazardous Waste  
Management Division  
U. S. Environmental Protection  
Agency, Region VI (one copy of the RFI report)

Texas Water Commission  
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QGH/mr  
Attachment